UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,932	08/28/2003	Lawson A. Wood	AW-20	6102

7590 09/08/2006

L. Allen Wood
873 N. Frederick St.
Arlington, VA 22205

EXAMINER	
LIN, WEN TAI	
ART UNIT	**PAPER NUMBER**
2154	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/649,932
Filing Date: August 28, 2003
Appellant(s): WOOD, LAWSON A.

Lawson A. Wood

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 5, 2006 appealing from the Office action mailed November 22, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 5-7, 13-14, 17, 21-24, 27-28, 33-35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al.(hereafter "Wiser")[U.S. Pat. No. 6385596] in view of McNab et al.(hereafter "McNab")["The New Zealand Digital Library MELody inDEX", May 1997].

2. As to claims 1 and 6-7, Wiser teaches the invention substantially as claimed including: a method for distributing music over the internet [col.3, lines 5-10], comprising the steps of:

(b) sending information to identify the musical compositions in writing to the person over the internet [Fig.8; col.14, lines 40-47];

(c) receiving a request from the person over the Internet for an audio preview of one of the musical compositions, which has been selected by the person [col.14, lines 48-51];

(d) sending a corrupted version of some or all of the selected musical composition to the person over the internet [col.3, lines 50-63; that is, the low quality audio data for preview is a corrupted version of some or all of the musical composition];

(e) receiving a request from the person over the internet for the selected musical composition without corruption [col.29, lines 65-67]; and

(f) sending the selected musical composition without the corruption to the person [col.30, lines 20-22; col.3, lines 54-55].

Wiser does not specifically teach the step of:

(a) recognizing a plurality of musical compositions from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library, wherein the pattern derived from the specimen comprises pitch information.

However, McNab teaches a method for identifying and retrieving melodies from a database on the basis of a few notes [i.e., a specimen] sung into a microphone, or entered (by playing an instrument) [Abstract and page 2, the 3rd paragraph] wherein the specimen comprises pitch information [see, e.g., paragraphs #1-3 on page 3 and paragraph #1 on page 4].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combine the teachings of Wiser and McNab by applying McNab's specimen query technique in Wiser's online music distribution system, because McNab's method provides a natural and convenient way of specifying a music or song for purchase.

Further, Wiser and McNab do not specifically teach providing with a set of keys for the person to hear and choose from before vocalizing the specimen. However McNab teaches that the specimen can be extracted from singing (e.g. humming into a microphone) or playing (e.g., entering via a musical instrument) a few notes. To accommodate such options, McNab's system must have provided both means for the person to choose, e.g., both a microphone and a musical instrument are in place. As such, it would have been obvious to one of ordinary skill in the art that a person who choose to vocalize a few notes could have initiated a tuning process by playing a few keys on the available musical instrument before vocalizing because tuning tends to better position the person's tone on a more confident, musical scale ["people need a choice of several matching procedures and should be able to explore the results interactively in their search for a particular melody" see the 3rd paragraph on page 2].

3. As to claim 5, McNab further teaches receiving the specimen over the internet and then deriving the pattern from the specimen [paragraphs 3 and 5 on page 2].

4. As to claim 13, Wiser further teaches securing payment for the musical composition without corruption before conducting step (f) [Abstract; i.e., the music is decrypted only after payment is done].

5. As to claim 27, McNab further teaches that the specimen further comprises duration information [paragraph #2-3 on page 3].

6. As to claims 14, 17, 21-24, 34 and 36 since the features of these claims can also be found in claims 1, 5 and 13 they are rejected for the same reasons set forth in the rejection of claims 1, 5 and 13 above.

As for the additional limitations in claims 14, 21, 34 and 36 requiring that the system be provided with a simulated musical instrument (e.g., using a displayable keys that can be actuated by a person using a pointing device) for sending out codes identifying the notes picked out rather than sounds detected by a microphone: it is noted that Wiser and McNab's system is an online, web-based service [McNab: Abstract: lines 3-6] that may interact with a URL or electronic file for obtaining a sample of acoustic signal [McNab: "Melody Transcription" on page 2]. Furthermore, computer simulated musical instrument in the Internet environment (e.g.,

interacting a computer programmed musical keyboard with a browser) is popular and well known.

It would have been obvious to one of ordinary skill in the art to use a simulated instrument for directly coupling to Wiser and McNab's database because: (1) McNab does not specify which kind of instruments should be used (i.e., it's an option to use simulated instruments); and (2) it enables users to interact Wiser and McNab's online database with a browser. Further, it is inherent that, while using a simulated musical instrument, codes representing various musical notes (or keys) exist before their corresponding acoustic signals. As such, it would have been obvious to an ordinary artisan to directly map the electronically available codes into their corresponding notes (rather than going through a pitch detection process to obtain the approximate notes) because the pitch detection process is error-prone and thus it makes no sense to derive sampled musical notes from the sounds while more accurate notes representing the sounds are already available.

7. As to claim 28, Wiser and McNab do not specifically teach using a user-adjustable tempo (claim 28) in the system.

However, providing manual control for adjusting tempo is well known in the art of electronic keyboard and is also widely used by piano players.

It would have been obvious to use an adjustable tempo in the musical instrument for playing out a sequence of musical notes because it allows a user to have better control on the speed, thereby improving the quality of the derived musical notes.

8. As to claims 33, Wiser teaches that a user may preview the audio data prior to purchase [Abstract]. This indicates that there is at least a simulated music player with certain displayable default buttons such as play and stop, which may be actuated by the person using a pointing device (such as a mouse), in the Wiser and McNab's system.

Wiser and McNab do not specifically teach incorporating the other displayable buttons such as record, back-up and send.

However, following the reasoning in the rejection of claim 21, on which claim 33 is depended, there is also a need for a computer simulated musical instrument for producing sampled musical notes, wherein displayable buttons such as play, record, back-up (rewind), and send are essential for one to make several trials before committing a selected sample of notes.

As such, it would have been obvious to equip the aforementioned music player with a music recorder's functionalities (i.e., forming an familiar music recorder/player) and integrated it into the simulated instrument because it enhances the integrity of the Internet-based user interface by avoiding potential conflicts between the simulated instrument and the music player (such as simultaneously actuating both units).

9. As to claim 35, Wiser and McNab do not specifically teach displaying on a screen a mapping that associates notes of the scale with the keys of the keyboard.

However, following the reasoning in the rejection of claim 34, on which claim 35 is depended, displaying keys on a computer screen is typical of a computer-implemented musical instrument, such as a simulated piano, wherein each key is inherently mapped to a unique note on a musical scale.

It would have been obvious to one of ordinary skill in the art to explicitly display the corresponding notes on their respective keys because it is easier for a novice player to press the keys according to the musical notes rather than recognizing the relative position of the keys.

10. Claims 29-32 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 29 is allowable because the prior art of record does not use a fixed set of filter banks for detecting the pitch frequency and detecting the transitions thereof by thresholding and comparing the signal strength coming out of each filter bank.

Claims 30-32 and 37 are allowable because the prior art of record does not teach individually or in combination the method of deriving a sequence of sampled notes without rests between the notes, wherein each note is associated with a time interval between the beginning of one note in the sequence and the beginning of the next note.

(10) Response to Argument

With respect to claim 1: Applicant argues that (1) there is no reason why a person who originally decides to microphone for producing a sample of song would abandon his original intention to play the sample and decide to sing or hum it instead; (2) the examiner seems to suggest tuning the musical instrument to certain standard, which is not convincing; and (3) McNab teaches adapting to a user's own tuning, rather than tuning the user's voice to a particular standard.

The argument is not persuasive because (1) a person's decision is largely based on the options that are available to him. Since McNab's system is designed for users to "explore the results interactively in their search for a particular melody" [McNab: page 2, 3rd paragraph], and because both a microphone and a musical instrument are available [e.g., McNab suggests humming or playing a few notes – see Abstract], it is reasonable for one to explore the option of playing a keyboard followed by humming a sample of the music to see which method produces better result; and (2) the examiner does not suggest tuning the musical instrument to certain standard, nor tuning a musical instrument itself. Instead, the examiner suggests that one may use the keyboard to tune his own voice up to a confident level on a musical scale (so that a better vocal sample may be produced) because there's no particular standard one can follow unless an original musical score is available.

With respect to claims 14 and 21: Applicant argues that McNab only teaches retrieving audio signals as musical samples, therefore even if codes in electronic form are available, there is no motivation for McNab to suggest using the codes instead of the audio signals.

The argument is not persuasive because:

(1) The combination of Wise's Internet application and McNab's web-based music library motivate one of ordinary skill to pursue a full Internet-based solution in querying McNab's music library. That is, based on the combined teachings of Wise and McNab, an ordinary artisan would seek to replace a physical instrument with a computer programmed, simulated instrument and uses a browser to interact with MaNab's database; and

(2) Under such circumstances (i.e., when a simulated instrument is adopted), it is obvious to an artisan of ordinary skill to use the codes (which are available in electronic form and are correctly mapped to their corresponding music notes) because converting acoustic signals to their respective musical notes is a reverse-engineering of an electronic instrument and the converting process is error-prone.

An example of entering direct music notes from a client computer for searching a remote music database can be found in Iwamura (U.S. 6188010). Iwamura teaches using a piano roll music notation interface or a piano keyboard interface to enter a sample of melody [see Abstract and col.1, lines 50-64].

With respect to claim 34, Applicant's argument focuses on the fact that McNab does not specifically teach using an electronic keyboard, wherein the codes may also be directly used for deriving the nodes, instead of going through the pitch detection process. However, it is submitted that simulated instruments (including electronic keyboards) are legitimate and obvious options for sounding out a selected music sample because McNab's system does not restrict itself to a specific instrument. In fact, at page 2 paragraph #2, McNab teaches that the system "retrieves music on the basis of a few notes that are sung, hummed, or otherwise entered", the latter obviously includes directly entering the sampled notes. Furthermore, when key-related codes are available for direct mapping of the sampled notes, it is advantageous to skip the error-prone pitch processing and uses the directly mapped musical notes while McNab's central database still uses pattern matching between musical notes [see the last paragraph under Conclusion Section on page 10]. This is evidenced by Iwamura's system (U.S. 6188010), which uses the entered music

notes as query input rather than picking up sound from a microphone and do a reverse-engineering for obtaining the music notes (or pitches) that already exist.

With respect to claim 28: Applicant argues that the examiner does not provide any reason why a person who vocalizes his specimen would want to use this feature.

It is noted that claim 28 is about using a user adjustable tempo device for better control of a desirable tempo. The scenario is for a person who choose the "play" option to use such a device for pacing the tempo speed. It is submitted that such a tempo controller has been widely utilized in real world, in particular for novice musical instrument players, therefore the addition of such device to a web-based application is not a patentable subject matter. In fact, there are plenty of online musical performance practicing devices adopt user-controllable tempo adjustment. An example of electronically generated tempo control for an electronic musical instrument can be found in Yamaura (U.S. 6287124) at col.9, lines 16-27.

With respect to claims 33 (about displaying the simulated musical instrument on a monitor that additionally displays a plurality of options for use by the person, the options including a record option, a play option, a back-up option, and a send option) and 35 (about displaying on a screen a mapping that associates notes of the scale with the keys of the keyboard): Applicant argues that the examiner's reasoning lacks direct support from the cited references for implementing these additional functionalities in a true or simulated musical instrument, and a novice player's preference would probably choose to use humming or singing the sampled notes in McNab's system, rather than trying on a unfamiliar musical instrument.

In response, Applicant is reminded that McNab does not tie the "playing" option to any specific instrument. As a matter of fact, McNab teaches that the system "retrieves music on the basis of a few notes that are sung, hummed, or otherwise entered", wherein the latter obviously includes directly entering the sampled notes.

The features of claim 33 are situated in an Internet-based environment wherein using a simulated musical instrument for directly entering the musical notes appears to be more advantageous than entering the acoustic signals. As such, it has an obvious incentive to provide a user-friendly, computer-simulated musical instrument for an Internet user, and particularly for a novice musical instrument player. The various featured buttons mentioned in this claim are justified in two separate units: an audio player for previewing music segments from a network-based music supplier and a typical recorder for preparing a quality set of sampled musical notes (to be sent out to a database). Integration of both units into one single module is justified under the incentive of system integrity (e.g., for preventing conflicting operations of two separate units) and is further evidenced by Wadhams (U.S. 5225618), who teaches a simulated music composition instrument that is equipped with keys (i.e., buttons) for purpose of play, record, rewind/forward, and tempo control, etc.[see Fig.4].

As to claim 35, a similar reasoning is given (as also evidenced by the teaching of Iwamura, U.S. 6188010, above) for purpose of helping novice musical instrument players to operate a set of simulated keys.

Thus, although Wiser and McNab do not teach every aspect and in sufficient details of the "playing" option, it is the web-based services (based on both Wiser and McNab's teachings)

that prompt a skilled artisan to implement an Internet-based user interface to Wiser and McNab's database. Under such circumstances, the use of computer simulated musical instrument, the further exploitation of directly available codes or mapped musical notes, and the user-friendly front-end music preparation and preview system (e.g., a unified recorder and player) have naturally found its good causes.

With respect to claims 29-32 and 37, the argument is moot because these dependent claims are now objected to merely because of their dependence on rejected base claims.

(11) Related Proceeding(s) Appendix

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Wen-Tai Lin

Primary Examiner 2154

Conferee:

John Follansbee FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100